

Interactive comment on “Observed and Modelled Mixed-Layer Properties on the Continental Shelf of Sardinia (Mediterranean Sea)” by Reiner Onken

Anonymous Referee #1

Received and published: 7 November 2016

GENERAL COMMENTS

The manuscript titled "Observed and Modelled Mixed-Layer Properties on the Continental Shelf of Sardinia (Mediterranean Sea)" described the validation of a numerical circulation model ROMS implemented in an area in front of the western coast of Sardinia. The aim is to explore the sensitivity of the forecast skill of local mixed-layer properties to the initial conditions, boundary conditions, and vertical mixing parameterisations. To do this, the author uses the data acquired during the REP14-MED oceanographic survey, realized in June 2015 and supported by NATO, to be assimilated and for model validation. The paper, really technical on ROMS and its limits/potentiality in reproducing local mesoscale and sub-mesoscale variability, is well written and accurately describes all processes that lead to the evaluation of such a model implemented in the area. Can be acceptable for publication after minor revisions.

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SPECIFIC COMMENTS

The title "Observed and Modelled Mixed-Layer Properties on the Continental Shelf of Sardinia (Mediterranean Sea)" does not take the reader to the right aim of the paper as no description of properties of the mixed-layer over the Sardinia's shelf is present. I would suggest another title like "Validation of an ocean shelf model for the prediction of mixed-layer properties west of Sardinia (Mediterranean Sea)" or something similar.

The author should verify the use of the units for temperature in the text and figures/captions.

TECHNICAL CORRECTIONS

page 3, line 13: unify the two references Onken et al. in one like (Onken et al., 2014, 2016)

page 4, line 18: correct "begin" in "beginning"

page 5, line 10: unify the two references Shchepetkin and McWilliams in one like (Shchepetkin and McWilliams, 2003, 2005)

page 15, line 9: correct "to shallow" in "too shallow"

page 17, line 17: put up the DOI at the end of the reference of Le Galloudec et al.

page 17, line 24: delete the reference Lurton (2010) as it is not in the text

Interactive comment on Ocean Sci. Discuss., doi:10.5194/os-2016-85, 2016.